

April 12, 2017

Tom Moe
USS Corporation
P.O. Box 417
8771 Park Ridge Dr
Mountain Iron, MN 55768

RE: Project: USS MinnTac NPDES-TB 4/5/17
Pace Project No.: 1285224

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on April 05, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Melisa M Woods
melisa.woods@pacelabs.com
(218)742-1042
Project Manager

Enclosures

cc: Cory Hertling
Terri Sabetti, NTS



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: USS MinnTac NPDES-TB 4/5/17

Pace Project No.: 1285224

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

California Certification #2973

California Certification #2973

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

California Certification #2973

Duluth Minnesota Certification ID's

4730 Oneota St., Duluth, MN 55807

Minnesota Dept of Health Certification #: 027-137-152

Wisconsin DNR Certification # : 999446800

North Dakota Certification #: R-105

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SAMPLE SUMMARY

Project: USS MinnTac NPDES-TB 4/5/17

Pace Project No.: 1285224

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1285224001	SD 001 Seep 020	Water	04/05/17 12:00	04/05/17 14:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: USS MinnTac NPDES-TB 4/5/17

Pace Project No.: 1285224

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1285224001	SD 001 Seep 020	EPA 1664A TPH (1999)	DES	1	PASI-DUL
		USGS I-3765	BEM	1	PASI-V
		EPA 300.0	DMB	1	PASI-V

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: USS MinnTac NPDES-TB 4/5/17

Pace Project No.: 1285224

Sample: SD 001 Seep 020		Lab ID: 1285224001		Collected: 04/05/17 12:00		Received: 04/05/17 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH									
Analytical Method: EPA 1664A TPH (1999)									
Total Petroleum Hydrocarbons	ND	mg/L	3.0	1.0	1		04/07/17 11:59		
USGS I-3765 TSS									
Analytical Method: USGS I-3765									
Total Suspended Solids	4.0	mg/L	1.0	1.0	1		04/11/17 13:23		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Sulfate	931	mg/L	20.0	10.0	10		04/10/17 16:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: USS MinnTac NPDES-TB 4/5/17

Pace Project No.: 1285224

QC Batch:	110268	Analysis Method:	EPA 1664A TPH (1999)
QC Batch Method:	EPA 1664A TPH (1999)	Analysis Description:	1664 SGT-HEM, TPH
Associated Lab Samples:	1285224001		

METHOD BLANK: 436071 Matrix: Water

Associated Lab Samples: 1285224001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.0	1.0	04/07/17 11:59	

LABORATORY CONTROL SAMPLE: 436072

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	17.0	85	64-132	

MATRIX SPIKE SAMPLE: 436231

Parameter	Units	1285224001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20	15.8	79	64-132	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: USS MinnTac NPDES-TB 4/5/17

Pace Project No.: 1285224

QC Batch:	110531	Analysis Method:	USGS I-3765
QC Batch Method:	USGS I-3765	Analysis Description:	USGS I-3765 Total Suspended Solids
Associated Lab Samples:	1285224001		

METHOD BLANK: 436953 Matrix: Water

Associated Lab Samples: 1285224001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	1.0	1.0	04/11/17 13:23	

LABORATORY CONTROL SAMPLE: 436954

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	239	240	100	80-120	

SAMPLE DUPLICATE: 436955

Parameter	Units	1285359001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	284	300	5	10	

SAMPLE DUPLICATE: 436956

Parameter	Units	1285357001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	88.0	86.0	2	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: USS MinnTac NPDES-TB 4/5/17

Pace Project No.: 1285224

QC Batch: 110316

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1285224001

METHOD BLANK: 436306

Matrix: Water

Associated Lab Samples: 1285224001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.0	1.0	04/10/17 11:40	

LABORATORY CONTROL SAMPLE: 436307

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	48.1	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 436308

436309

Parameter	Units	1285333008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	23.8	50	50	70.8	71.2	94	95	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 436310

436311

Parameter	Units	1285244001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	5.5	50	50	53.0	52.6	95	94	90-110	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: USS MinnTac NPDES-TB 4/5/17

Pace Project No.: 1285224

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-DUL Pace Analytical Services - Duluth

PASI-V Pace Analytical Services - Virginia

BATCH QUALIFIERS

Batch: 110268

[BE] Batch extracted by solid phase extraction (SPE).

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USS MinnTac NPDES-TB 4/5/17

Pace Project No.: 1285224

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1285224001	SD 001 Seep 020	EPA 1664A TPH (1999)	110268		
1285224001	SD 001 Seep 020	USGS I-3765	110531		
1285224001	SD 001 Seep 020	EPA 300.0	110316		

REPORT OF LABORATORY ANALYSIS

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Section B
Required**Required Project Information:**

Section C

Invoice Information:

Invoice Information:

CLIENT: USS CORP

CHAIN-OF-CUSTODY / Analytical Re
The Chain-of-Custody is a LEGAL DOCUMENT. All rele

W0#: 1285224

Due Date: 04/19/17


1

Page 11 of 14

Company:	USS Corporation	Report To:	Tom Moe	Regulatory Agency
Address:	P.O. Box 417	Copy To:		
Mt. Iron, MN 55768				
Email:		Purchase Order #:		
Phone:	Fax:	Project Name:	NPDES-TB Wk1	State / Location
Requested Due Date:		Project #:		
		Attention:		
		Company Name:		
		Address:		
		Peace Quote:		
		Peace Project Manager:	heather.zika@pacelabs.com,	
		Peace Profile #:		

[illegible]

SAMPLER NAME AND SIGNATURE		
PRINT Name of SAMPLER:	Paul Westrich	
SIGNATURE of SAMPLER:	Paul Westrich	
DATE signed:	4-5-77	
TEMP in C		
Received on Ice (Y/N)		
Custody Sealed Cooler (Y/N)		
Samples Intact (Y/N)		

	Document Name:	Document Revised: 15Mar2016
	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No.: F-VM-C-001-Rev.10	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name:

Project #:

USS Corp

WO#: 1285224

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Pace ☐ Other: _____

PM: MMW Due Date: 04/19/17
 CLIENT: USS CORP

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☐ No Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other: _____ Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140792808 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.5 Cooler Temp Corrected °C: 2.8 Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA
 Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: MT 4-5-17

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. If Fecal: <input type="checkbox"/> <8 hours <input type="checkbox"/> >8, <24 hours <input type="checkbox"/> >24 hours
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Date:

4-5-17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Intra-Regional Chain of Custody



Workorder: 1285224 Workorder Name: USS MinnTac NPDES-TB 4/5/17 Owner Received Date: 4/5/2017 Due Date: 4/19/2017

Received at: Pace Analytical Virginia
315 Chestnut Street
Virginia, MN 55792
Phone (218)742-1042

Send To Lab: Pace Analytical Duluth
4730 Oneota Street
Duluth, MN 55807
Phone (218) 727-6380


Report To:
Melisa M Woods

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	HCL	Preserved Containers	EPA 1664A TPH (1999)	Requested Analysis	LAB USE ONLY
1	SD 001 Seep 020	PS	4/5/2017 12:00	1285224001	Water	3		X		
2										
3										
4										
5										

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	<i>Loccup</i>	4/6/17 14:00	<i>Mr Hoffy</i>	4/6/17 15:15	
2					
3					
4					

Cooler Temperature on Receipt	1.5 °C	Custody Seal	<input checked="" type="checkbox"/> Y or <input type="checkbox"/> N	Received on Ice	<input checked="" type="checkbox"/> Y or <input type="checkbox"/> N	Samples Intact	<input checked="" type="checkbox"/> Y or <input type="checkbox"/> N
-------------------------------	--------	--------------	---	-----------------	---	----------------	---

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 21Mar2017 Page 1 of 1
	Document No.: F-DUL-C-001-rev.03	Issuing Authority: Pace Duluth Minnesota Quality Office

Sample Condition Upon Receipt	Client Name: <u>Pace VM</u>	Project #:
	Courier: <input type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Pace <input type="checkbox"/> Other: _____	
Tracking Number: _____		

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: _____ Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ IR-1 ☐ 161014660 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: _____ Cooler Temp Corrected °C: _____ Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA
 Temp should be above freezing to 6°C Correction Factor: _____ Date and Initials of Person Examining Contents: PH 4/6/17

Comments:			
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	If Fecal: <input type="checkbox"/> <8 hours <input type="checkbox"/> >8, <24 hours <input type="checkbox"/> >24 hours
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.	
-Includes Date/Time/ID/Analysis Matrix: <u>wt</u>			
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation	
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.	
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: red Date: 4/7/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)